



**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2018-0439; Product Identifier 2016-SW-074-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Sikorsky Aircraft Corporation**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to supersede airworthiness directive (AD) 2017-14-03 for Sikorsky Aircraft Corporation (Sikorsky) Model S-92A helicopters. AD 2017-14-03 requires an inspection and reduces the retirement lives of certain landing gear components. This proposed AD would retain the requirements of AD 2017-14-03, reduce the retirement lives of additional landing gear components, and require repeating the inspection. The actions of this proposed AD are intended to prevent an unsafe condition on these products.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 60 days AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to <http://www.regulations.gov>. Follow the online instructions for sending your comments electronically.
- Fax: 202-493-2251.

- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.

- Hand Delivery: Deliver to the “Mail” address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0439; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the economic evaluation, any comments received and other information. The street address for Docket Operations (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed rule, contact Sikorsky Aircraft Corporation, Customer Service Engineering, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or 203-416-4299; email: [wcs\\_cust\\_service\\_eng.gr-sik@lmco.com](mailto:wcs_cust_service_eng.gr-sik@lmco.com). You may review service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177.

**FOR FURTHER INFORMATION CONTACT:** Dorie Resnik, Aviation Safety Engineer, Boston ACO Branch, Compliance and Airworthiness Division, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7693; email [dorie.resnik@faa.gov](mailto:dorie.resnik@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

### **Discussion**

We issued AD 2017-14-03, Amendment 39-18947 (82 FR 34838, July 27, 2017), for Sikorsky Model S-92A helicopters. AD 2017-14-03 was prompted by Sikorsky's updated fatigue analysis of the nose and main landing gear, which revealed that certain components require a reduced service life. Therefore, AD 2017-14-03 requires reducing the retirement lives of main landing gear (MLG) wheel axle part number (P/N) 2392-2334-001, MLG and nose landing gear (NLG) threaded hinge pin P/N 2392-2311-003,

NLG cylinder P/N 2392-4006-005, NLG hinge pin P/N 2392-4312-003, and landing gear actuator rod end P/N 2392-0876-901. AD 2017-14-03 also requires a one-time visual and ultrasonic inspection of NLG airframe fitting assembly P/N 92209-01101-041 once it has accumulated 31,600 landing cycles. Those actions are intended to detect and prevent cracks or failure of any landing gear component, which could result in damage and loss of control of the helicopter.

When we issued AD 2017-14-03, we determined it would be an interim action. Because Sikorsky's updated airworthiness limitations schedule included a repetitive inspection of the NLG airframe fitting assemblies P/N 92209-01101-041 every 1,989 landing cycles, we determined that the planned compliance time for these inspections would allow enough time to provide notice and opportunity for prior public comment on the merits of the repetitive inspection. Also, the reduced retirement lives for MLG cylinder P/N 2392-2006-005, MLG pin outboard P/N 2392-2312-003, MLG bulkhead left-hand side (LHS) P/N 92201-08111-105, -107, and -109, and MLG bulkhead right-hand side (RHS) P/N 92201-08111-106, -108, and -110 were not included in AD 2017-14-03. We determined the age of the existing Model S-92A fleet would also allow enough time to provide notice and opportunity for public comment on the merits of the reduced life limits. This proposed AD would require these inspections and reduced life limits.

#### **FAA's Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

## **Related Service Information Under 1 CFR part 51**

We reviewed Ultrasonic Inspection Technique No. UT 5077, Revision 0, dated July 25, 2014 (UT 5077). UT 5077 contains the inspection method, equipment and materials, calibration, and inspection procedure for performing an ultrasonic inspection of nose gear actuator fitting P/N 92209-01101-101.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

## **Other Related Service Information**

We also reviewed Sikorsky S-92 Helicopter Alert Service Bulletin 92-32-004, Basic Issue, dated January 30, 2015 (ASB). The ASB describes procedures for conducting a visual inspection of the NLG airframe fitting assembly and an ultrasonic inspection by following the procedures in UT 5077.

## **Proposed AD Requirements**

This proposed AD would require removing the following components from service:

- Any MLG wheel axle P/N 2392-2334-001 that has 22,300 or more landing cycles.
- Any MLG or NLG threaded hinge pin P/N 2392-2311-003 that has 26,100 or more landing cycles.
- Any NLG cylinder P/N 2392-4006-005 that has 26,300 or more landing cycles.
- Any NLG hinge pin P/N 2392-4312-003 that has 26,700 or more landing cycles.
- Any landing gear actuator rod end P/N 2392-0876-901 that has 41,700 or more landing cycles.

- Any MLG cylinder P/N 2392-2006-005 that has 76,300 or more landing cycles.
- Any MLG pin outboard P/N 2392-2312-003 that has 50,300 or more landing cycles.
- Any MLG bulkhead LHS P/N 92201-08111-105, -107, and -109 that has 58,400 or more landing cycles.
- Any MLG bulkhead RHS P/N 92201-08111-106, -108, and -110 that has 58,400 or more landing cycles.

For helicopters that have 31,600 or more landing cycles and an NLG airframe fitting assembly P/N 92209-01101-041 installed, this proposed AD would also require, before further flight and thereafter at intervals not exceeding 1,989 landing cycles:

- Using a 10X or higher power magnifying glass, inspecting each bushing and all visible surfaces of mating lug fittings adjacent to each bushing for fretting, corrosion, wear, and scratches.
- Replacing the NLG airframe fitting assembly before further flight if there is fretting, corrosion, wear, or a scratch more than 0.0005 inch deep.
- Ultrasonic inspecting the NLG actuator fitting and replacing the NLG actuator fitting before further flight if there are any anomalies.

### **Costs of Compliance**

We estimate that this AD will affect 80 helicopters of U.S. Registry.

We estimate that operators may incur the following costs in order to comply with this AD. At an average labor rate of \$85 per hour:

- Replacing a wheel axle P/N 2392-2334-001 would require 2 work-hours and

required parts cost \$22,000, for a cost per helicopter of \$22,170.

- Replacing a MLG or NLG threaded hinge pin P/N 2392-2311-003 would require 1 work-hour and required parts cost \$3,800, for a cost per helicopter of \$3,885.

- Replacing a NLG cylinder P/N 2392-4006-005 would require 1 work-hour and required parts cost \$27,200, for a cost per helicopter of \$27,285.

- Replacing a NLG hinge pin P/N 2392-4312-003 would require 1 work-hour and required parts cost \$4,400, for a cost per helicopter of \$4,485.

- Replacing a landing gear actuator rod end P/N 2392-0876-901 would require 1 work-hour and required parts cost \$900, for a cost per helicopter of \$985.

- Replacing a MLG cylinder P/N 2392-2006-005 would require 2 work-hours and required parts cost \$33,100, for a cost per helicopter of \$33,270.

- Replacing a MLG pin outboard P/N 2392-2312-003 would require 1 work-hour and required parts cost \$4,300, for a cost per helicopter of \$4,385.

- Replacing a MLG bulkhead LHS P/N 92201-08111-105, -107, and -109 would require 70 work-hours and required parts would cost \$12,550, for a cost per helicopter of \$18,500.

- Replacing a MLG bulkhead RHS P/N 92201-08111-106, -108, and -110 would require 70 work-hours and required parts would cost \$12,550, for a cost per helicopter of \$18,500.

- Inspecting the NLG airframe fitting assembly P/N 92209-01101-041 would require 8 work-hours, and required parts cost is minimal, for a cost of \$680 per helicopter and \$54,400 for the U.S. fleet, per inspection cycle.

- If required, replacing a NLG actuator fitting P/N 92209-01101-101 would require 70 work-hours, and required parts cost \$10,000, for a cost per helicopter of \$15,950.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify this proposed regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;



2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);

3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and

4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2017-14-03, Amendment 39-18947 (82 FR 34838, July 27, 2017) and adding the following new AD:

**Sikorsky Aircraft Corporation (Sikorsky):** Docket No. FAA-2018-0439; Product Identifier 2017-SW-074-AD.

#### **(a) Applicability**

This AD applies to Sikorsky Model S-92A helicopters, certificated in any category.

**(b) Unsafe Condition**

This AD defines the unsafe condition as fatigue failure of the landing gear. This condition could result in failure of the landing gear and subsequent damage to and loss of control of the helicopter.

**(c) Affected ADs**

This AD replaces AD 2017-14-03, Amendment 39-18947 (82 FR 34838, July 27, 2017).

**(d) Comments Due Date**

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(e) Compliance**

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

**(f) Required Actions**

(1) Before further flight, remove from service any part that has accumulated the number of landing cycles listed in Table 1 to paragraph (f)(1) of this AD. Thereafter, remove from service any part before accumulating the number of landing cycles listed in Table 1 to paragraph (f)(1) of this AD. For purposes of this AD, a landing cycle is counted anytime the helicopter lifts off into the air and then lands again regardless of the duration of the landing and regardless of whether the engine is shut down. If the number of landing cycles is unknown, multiply the number of hours time-in-service by 4.5 to

determine the number of landing cycles.

Part Name	Part Number (P/N)	Life Limit
Main landing gear (MLG) wheel axle	2392-2334-001	22,300 landing cycles
MLG or nose landing gear (NLG) threaded hinge pin	2392-2311-003	26,100 landing cycles
NLG cylinder	2392-4006-005	26,300 landing cycles
NLG hinge pin	2392-4312-003	26,700 landing cycles
Landing gear actuator rod end	2392-0876-901	41,700 landing cycles
MLG cylinder	2392-2006-005	76,300 landing cycles
MLG pin outboard	2392-2312-003	50,300 landing cycles
MLG bulkhead (left-hand side)	92201-08111-105 92201-08111-107 92201-08111-109	58,400 landing cycles
MLG bulkhead (right-hand side)	92201-08111-106 92201-08111-108 92201-08111-110	58,400 landing cycles

Table 1 to Paragraph (f)(1) of this AD

(2) For helicopters with 31,600 or more landing cycles and an NLG airframe fitting assembly P/N 92209-01101-041 installed, before further flight and thereafter at intervals not to exceed 1,989 landing cycles:

(i) Using a 10X or higher power magnifying glass, inspect each bushing (P/N 92209-01101-102 and P/N 92209-01101-103) and all visible surfaces of mating lug fittings adjacent to each bushing for fretting, corrosion, wear, and scratches. If there is fretting, corrosion, wear, or a scratch more than 0.0005 inch deep, replace the NLG airframe fitting assembly before further flight.

(ii) Ultrasonic inspect each NLG actuator fitting P/N 92209-01101-101 in accordance with Sikorsky Ultrasonic Inspection Technique No. UT 5077, Revision 0,

dated July 25, 2014 (UT 5077), except you are not required to report to or contact Sikorsky. If there are any anomalies or suspect indications, replace the NLG actuator fitting before further flight.

Note 1 to paragraph (f)(2)(ii) of this AD: A copy of UT 5077 is attached to Sikorsky S-92 Helicopter Alert Service Bulletin 92-32-004, Basic Issue, dated January 30, 2015.

**(g) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Boston ACO Branch, FAA, may approve AMOCs for this AD. Send your proposal to: Dorie Resnik, Aviation Safety Engineer, Boston ACO Branch, Compliance and Airworthiness Division, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7693; email [dorie.resnik@faa.gov](mailto:dorie.resnik@faa.gov).

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

**(h) Additional Information**

Sikorsky S-92 Helicopter Alert Service Bulletin 92-32-004, Basic Issue, dated January 30, 2015, which is not incorporated by reference, contains additional information about the subject of this AD. For service information identified in this AD, contact Sikorsky Aircraft Corporation, Customer Service Engineering, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or 203-416-4299; email: [wcs\\_cust\\_service\\_eng.gr-sik@lmco.com](mailto:wcs_cust_service_eng.gr-sik@lmco.com). You may review this service information at the

FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177.

**(i) Subject**

Joint Aircraft Service Component (JASC) Code: 3200 Main Landing Gear and  
3220 Nose Landing Gear.

Issued in Fort Worth, Texas, on May 9, 2018.

Lance T. Gant,

Director, Compliance & Airworthiness Division,  
Aircraft Certification Service.

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